REMARKS

In view of the preceding amendments and the following remarks, the Applicant respectfully requests reconsideration of the present application.

The Claimed Invention

As recited in twice amended independent method claim 1, the present invention encompasses:

[a] method for producing a compressed video bitstream that includes compressed video data for a plurality of frames from data that specifies a single still image
   *   *   *
whereby decoding of the compressed video bitstream produces frames of video which produce images that do not appear to pulse visually.

The invention solves a problem that appears in images produced by a conventional MPEG decoder when decoding a conventionally MPEG encoded video bitstream that reproduce a still image, particularly a still image containing text. Detail for decoded MPEG still images tends to be lower at the beginning of each group of pictures ("GOP") when an intra ("I") frame is decoded, increases during decoding of successive predicted ("P") frames and bidirectional ("B") frames in the GOP, only to decrease again upon decoding the next I frame. Thus, a decoding of the MPEG compressed video bitstream of a still image frequently produces a video image that appears to pulse visually, usually at a frequency identical to the frequency at which GOPs occur in the compressed video bitstream, e.g. twice per second. This visual pulsing of the still image

produced by decompressing a MPEG compressed video bitstream in many instances makes them commercially unacceptable.

Objections and Rejections

The Examiner's Action dated June 8, 2001, Paper no. 5:

1. rejects claims 1-5 under 35 U.S.C. § 112, second paragraph; and

2. rejects claims 1-7 under 35 U.S.C. § 103(a) as being unpatentably obvious over:

    a. United States Patent no. 5,689,589 entitled "Data Compression for Palettized Video Images" which issued on an application filed December 1, 1994, by Michael J. Gormish and Martin P. Boliek ("the Gormish, et al. patent"):

    b. in view of:

        i. United States Patent no. 5,404,446 entitled "Dual Buffer Video Display System for the Display of Asynchronous Irregular Frame Rate Video Data" which issued April 4, 1995, on an application filed by Ronald J. Bowater, Barry K. Aldred and Stephen P. Woodman ("the Bowater, et al. patent") and

        ii. United States Patent no. 5,838,678 entitled "Method and Device for Preprocessing Streams of Encoded Data to Facilitate Decoding Streams Back-to Back" which issued on an application

Docket no. 2134   -4-

October 4, 2001

filed July 24, 1996, by Joseph W. Davis and Shawn M. Hayes ("the Davis, et al. patent").

Description of the Amendments

Claim 1 is being amended for a second time to:

1. more precisely and distinctly claim the subject matter which the Applicant regards as his invention; and

2. rectify a minor grammatical error.

The Cited References

The Gormish, et al. Patent

Exhibit A to this response presents those FIGs. and texts in the Gormish, et al. patent that are pertinent to the invention encompassed by the pending claims. The FIGs. and texts in Exhibit A hereto establish that during the processing of "frame sequence data"[1] the frame store 204C, illustrated in FIG. 2 of the Gormish, et al. patent, is:

1. initially empty and is unable to provide any context for very early pixels[2];

2. at the end of processing each pixel, to prepare for processing the next pixel, the context modeler 202C:

   a. cycles UCLK to update frame store 204C (C13); and

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[1] The Gormish, et al. patent col. 4, lines 55-58.

[2] The Gormish, et al. patent col. 7, lines 17-18.

Docket no. 2134   October 4, 2001

b.   then cycles PCLK to get the next pixel (C14)[3];

3.   during pixel processing, the context modeler 202C:

   a.   loads the current pixel into pixel register 402[4]

   b.   CP register 408 of the context modeler 202C "addresses" frame store 204C to obtain the context pixels for the current pixel[5];

   c.   determines the sameness context model and the residual context model and loads SMASK and RMASK (step C1)[6]; and

   d.   reads T from frame store 204C and X from pixel register 402. and tests whether or not the current pixel is the same as the corresponding pixel from a previous frame, i.e. performs the sameness test $X = T$[7];

4.   as the frame store 204C fills, the data for the oldest pixels are overwritten as new pixels are stored there[8];

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[3]   The Gormish, et al. patent col. 11, lines 11-13, and col. 9, lines 3-5.

[4]   The Gormish, et al. patent col. 10, line 32.

[5]   The Gormish, et al. patent col. 9, lines 32-23.

[6]   The Gormish, et al. patent col. 10, lines 28-29.

[7]   The Gormish, et al. patent col. 10, lines 38-46.

[8]   The Gormish, et al. patent col. 7, lines 21-23.

Docket no. 2134

October 4, 2001

5. frame store 204C need only be large enough to hold the values needed to determine future contexts[9];

6. if frame store 204C has enough space to hold the current pixel without overwriting any pixels which form the context for the current pixel, then PCLK can be substituted for UCLK[10] and

7. if no context referred to pixel values from frames earlier than the immediately prior frame, storage is only needed for one full frame[11].

The texts from the Gormish, et al. patent presented in Exhibit A and the preceding summary thereof irrefutably establish that:

1. the disclosed method operates on a sequence of image frames; and

2. **at no time does the frame store 204C depicted in FIG. 2, store an encoded I frame of data** as alleged in the Examiner's Action dated June 8, 2001, in lines 3-4 on page 3 thereof.

Rather, the text of the Gormish, et al. patent at best discloses that the frame store 204C:

1. stores only unencoded pixel values for those pixels which precede the present pixel; and

_____

9   The Gormish, et al. patent col. 7, lines 23-25.

10 The Gormish, et al. patent col. 9, lines 5-8.

11 The Gormish, et al. patent col. 7, lines 25-27.

-7-

2. supplies unencoded pixel values to the context modeler 202C for use in performing the sameness test X==T.

That is, the Gormish, et al. patent does not disclose a transfer of pixel values stored in the frame store 204C through the entropy coder 208C into the compressed file 220.

Regarding the storage capacity of the frame store 204C, it need only be large enough to hold the values needed to determine future contexts. However, the amount of data preserved in the frame store 204C depends upon the particular context model performed by (implemented in) the context modeler 202C[12]. Therefore, the frame store 204C may store unencoded pixel values for more than one frame if:

1. required to do so by the context model performed by (implemented in) the context modeler 202C; or

2. has enough space to hold the current pixel without overwriting any pixels which form the context for the current pixel.

As set forth in Exhibit A, the block diagram FIG. 3 depicts a decompressor 122 whose operation is illustrated in the flow chart of FIG. 7. The Gormish, et al. patent discloses merely that decompressor 122 stores pixels into and retrieves pixels from the frame store 204D[13].

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[12] The Gormish, et al. patent col. 7, lines 3-15.

[13] The Gormish, et al. patent col. 12, lines 14-20.

Docket no. 2134

October 4, 2001

Despite repeated diligent searches of the Gormish, et al. patent, Applicant is able to find in that reference:

    1.   **only a single mention of a "still image 104"[14]; and**

    2.   **not a single additional occurrence of:**

        a.   **the word "still;" or**

        b.   **the reference number 104;**

        anywhere else throughout that entire reference including the reference's claims.

Also, Applicant is unable to find anywhere in the single text in the Gormish, et al. patent identified in the Examiner's Action any express discussion regarding an intra ("I") frame, i.e. a frame of compressed video data which can be decoded without reference to data in another frame of video data.

Despite repeated diligent searches of the Gormish, et al. patent, Applicant is unable to find therein any disclosure or suggestion of:

    1.   "encoding data for a still image into data for an intra ("I") frame" as expressly required by independent claim 1; or

    2.   a null frame; or

    3.   combining data for the I frame with that for a null frame.

Correspondingly, despite repeated diligent searches of the Gormish, et al. patent, Applicant is unable to find therein any disclosure

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[14]   The Gormish, et al. patent col. 4, line 50.

or suggestion that decoded still images that have been encoded in accordance with the reference's disclosure do not pulse visually.

The Bowater, et al. Patent

The Bowater, et al. patent addresses the technological problem that:

> [i]n computer-based video communication systems, a video signal is obtained from the camera at a constant frame rate but, <u>after transmission across the asynchronous or non-ideal network, the frames arrive at irregular intervals. Some frames arrive early, some are delayed, and bunching can occur.</u> The display device at the receiving terminal, however, generally requires a constant frame rate supplied to it (e.g., to match the raster scan rate of a CRT). In such systems it is therefore necessary to match the irregular arrival of frames over the network with the constant supply required to the output screen.
>
>   *   *   *
>
> The designer of computer based video communication systems is . . . faced with the problem of how to achieve regular play-out of the asynchronous incoming video signal while, at the same time, minimising the number of buffered video frames. (Col. 1, lines 38-64) (Emphasis supplied.)

Exhibit B to this response presents those FIGs. and texts in the Bowater, et al. patent that are pertinent to the invention encompassed by the pending claims. The FIGs. and texts in Exhibit B hereto establish that the Bowater, et al. patent, discloses:

1.   an apparatus and procedure for buffering motion video data in a decoding device prior to displaying an image on a screen that accommodates irregular arrival of frames of

video data due to their transmission across an asynchronous or non-ideal network;[15] and

2. accommodating insufficient data arriving at the decoding device via the asynchronous or non-ideal network by:

   a. temporarily freezing the image appearing on the screen by adding null frames;[16] and

   b. subsequently deleting delayed frames of data when they do arrive.[17]

Despite diligently searching the Bowater, et al. patent, Applicant is unable to find there any disclosure or even a suggestion that the disclosed buffering technique prevents still images from pulsing visually.

The Davis, et al. Patent

FIGs. 2, 3A, 3B, 5 and 6 of the Davis, et al. patent respectively illustrate:

1. FIG. 2, the syntax of an MPEG II PES packet;

2. FIGS. 3a and 3b, the organization of an MPEG II video sequence;

3. FIG. 5, the structure of a picture header of the MPEG II video sequence of FIGS. 3a and 3b; and

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[15] The Bowater, et al. patent col. 5, lines 35-63.

[16] The Bowater, et al. patent col. 5, line 65 - col. 6, line 28.

[17] The Bowater, et al. patent col. 6, lines 29-41.

Docket no. 2134   October 4, 2001

4. FIG. 6, the structure of a group of pictures header of the MPEG II video sequence of FIGS. 3a and 3b.

The Davis, et al. patent provides the illustrations listed above as background art necessary for a proper understanding of the invention which that reference's discloses.

Exhibit C to this response presents those FIGs. and texts in the Davis, et al. patent that are pertinent to the invention encompassed by the pending claims. The FIGs. and texts in Exhibit C hereto establish that the problem solved by the Davis, et al. patent is eliminating a one (1) second delay that occurs if both the video decoder and the audio decoder must be reset before beginning to decode a subsequent program.[18]

To solve the preceding technological problem the Davis, et al. patent discloses a method which:

1. first verifies that the multiplexed stream complies with an encoding standard;[19]

2. preprocesses packets of the packetized and encoded:

    a. video sequence such that no video artifacts are produced when the video decoder decodes the immediately following encoded video sequence;[20] and

    b. audio data sequence such that its:

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[18] The Davis, et al. patent col. 5, lines 3-6.

[19] The Davis, et al. patent col. 6, lines 3-5.

[20] The Davis, et al. patent col. 6, lines 5-8.

Docket no. 2134   October 4, 2001

i. start time is within a first predetermined time of the start time of the video sequence;[21] and

   ii. temporal length is within a second predetermined time of the temporal length of the video sequence.[22]

The step of preprocessing the packets of the packetized, encoded, video sequence preferably includes deleting any video frames:

1. that cannot be decoded if video frames of the video sequence are not temporally correct;[23] and

2. following a code indicating an end of the encoded video sequence.[24]

The step of preprocessing the packets of the packetized, encoded, audio sequence preferably includes:

1. removing any partial audio frames;[25]

2. adjusting the number of audio frames, if necessary:

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[21]   The Davis, et al. patent col. 6, lines 8-11.

[22]   The Davis, et al. patent col. 6, lines 11-13.

[23]   The Davis, et al. patent col. 6, lines 15-17.

[24]   The Davis, et al. patent col. 6, lines 17-19.

[25]   The Davis, et al. patent col. 6, lines 19-21.

-13-

i.   so the audio and video sequences start within
       the first predetermined time;[26] and

  ii. such that the temporal lengths of the audio
       and video sequences are within the second
       predetermined time.[27]

Despite diligently searching of the Davis, et al. patent, Applicant is unable to find:

1.   any mention there that the disclosed preprocessing method may be used advantageously in encoding still images in accordance with the MPEG I or MPEG II standards, or

2.   using null frames in any compressed video encoding.

Furthermore, despite diligently searching the Davis, et al. patent Applicant is also unable to find any disclosure or suggestion that the disclosed preprocessing technique prevents still images from pulsing visually.

Thus, at best, the Davis, et al. patent discloses:

1.   in FIGs. 2, 3A, 3B, 5 and 6 some information about how compressed video data may be encoded in accordance with the MPEG standard; and

2.   that video data compressed in accordance with the MPEG standard can be pre-processed to avoid a one (1) second gap at junctions between different MPEG encoded programs.

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[26]   The Davis, et al. patent col. 6, lines 21-24.

[27]   The Davis, et al. patent col. 6, lines 24-27.

-14-

Legal Principles Applicable to
Rejections Under 35 U.S.C. 103(a)

Certain well established principles are to be applied in assessing whether or not an invention is patentable under 35 U.S.C. 103(a). First, the claims of a patent, which define the invention, are "to be construed in light of the specification and both are to be read with a view to ascertaining the invention." United States v. Adams, 383 U.S. 39, 49, 148 USPQ 479, 482 (1966). The "differences between the prior art and the claims at issue are to be ascertained." Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). Moreover, it is elementary that the claimed invention must be considered as a whole in deciding obviousness. Litton Industrial Products, Inc. v. Solid State Systems Corp., 755 F.2d 158, 164, 225 USPQ 34, 38 (Fed. Cir. 1985). The prior art as a whole must be considered, and those portions of the prior art arguing against or teaching away from the claimed invention must be considered. Bausch & Lomb, Inc v. Barnes-Hind/Hydrocurve, Inc., 796 F.2d 443, 448, 230 USPQ 416, 420 (Fed. Cir. 1986), In re Hedges, et al., 783 F.2d 1038, 1041, 228 USPQ 685, 687 (Fed. Cir. 1986).

An invention is obvious under 35 U.S.C. § 103(a), only if the prior art suggests a modification of the reference(s) and/or their combination. In In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) the Court of Appeals for the Federal Circuit ("CAFC") reversed a Board of Appeals decision that a patent application's claims were obvious under 35 U.S.C. § 103 holding

"that although a prior art [fuel filter] device could have been turned upside down, that did not make the modification obvious unless the prior art fairly suggested the desirability of turning the device upside down." _Continental Can Co. USA, Inc. v. Monsanto Co._ 948 F.2d 1264, ___, 20 USPQ2d 1746, 1751 (Fed. Cir. 1991). "The mere fact that the prior art could be . . . modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." _In re Gordon_, supra at 221, 1127. In accord, _In re Laskowski_, 871 F.2d 115, 117, 10 USPQ2d 1397, 1398 (Fed. Cir. 1989). **"[E]lements of separate prior patents cannot be combined when there is no suggestion of such combination anywhere in those patents"**. _Panduit Corp. v. Dennison Manufacturing Co._, 810 F.2d 1561, 1568, 1 USPQ2d 1593, 1597 (Fed. Cir. 1987) citing _ACS Hospital Systems, Inv. v. Montefiore Hospital_, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). (Emphasis supplied.) **An examiner is obliged to explain why combining references is proper indicating why one skilled in the art would make a combination or substitution**. _Ex parte Skinner_, 2 USPQ2d 1788, 1790 (Bd. Pat. App. & Int. 1986).

"When relying on numerous references . . . , . . . the examiner . . . [must] identify some suggestion to combine references or make the modification." _In re Mayne_, 104 F.3d 1339, ___, 41 USPQ2d 1451, _____ (Fed. Cir. 1997) citing _In re Jones_ 958 F.2d 347, ___, 21 USPQ2d 1941, _____ (Fed. Cir. 1992). (Emphasis supplied.) "In reviewing the Board's obviousness conclusions, we have been guided by the **well-settled principles** that **the claimed**

-16-

invention must be considered as a whole, multiple cited prior art references must suggest the desirability of being combined, and the references must be viewed without the benefit of hindsight afforded by the disclosure." In re Paulsen, 30 F.3d 1475, _____, 31 USPQ2d 1671, _____ (Fed. Cir. 1994). "[T]he absence of such a suggestion to combine is dispositive in an obvious determination." Gambro Lundia AB v. Baxter Healthcare Corp., 110 F.3d 1573, 1578-79, 42 USPQ2d 1378, 1383, 1384 (Fed. Cir. 1997) (Emphasis supplied)

Finally, it is impermissible to first ascertain factually what the inventor did and then view the prior art in such a manner as to select from the random facts of that art only those which may be modified and then utilized to reconstruct the invention from such prior art. Panduit Corp. v. Dennison Manufacturing Co., 774 F.2d 1082, 1092, 227 USPQ 337, 343 (Fed. Cir. 1985).

A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." Id. (quoting W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)). In Re Werner Kotzab, 217 F.3d _____, 1369, 55 USPQ2d _____, 1316 (Fed. Cir. 2000).

Applying the preceding principles to the claims of the present application and to the various references discussed herein, the Applicant respectfully submits that a proper reading of the references, either alone or in combination, fails to disclose or to

-17-

even suggest the invention embodied in the presently pending claims.

Argument

In rejecting claims 1-7 for obviousness under 35 U.S.C. § 103(a) the Examiner's Action combines:

1. a reference that discloses a pixel-based method for adaptively encoding a sequence of video frames ("the Gormish, et al. patent"); with

2. a reference that discloses an apparatus and method for buffering motion video data in a decoder ("the Bowater, et al. patent); and

3. a reference that discloses a method for preprocessing packets of packetized, encoded, audio and video sequences that eliminates video artifacts and avoids having to reset a decoder when sequentially decoding a sequence of two different programs ("the Davis, et al. patent").

In explaining application of the combined references to pending claims 1-7, the Examiner's Action dated June 8, 2001, confusingly states regarding the Gormish, et al. patent that:

1. "Gormish et al. discloses a data compression for palettized video images as shown in Figures 1-3, and substantially the same method for producing a compressed video bitstream . . . ;"[28]

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[28]   Page 2 of the Examiner's Action, last 2 lines.

-18-

2. "**is being relied upon for the claimed feature of 'decod-
    ing of the compressed video bitstream produces frames of
    video which produces image that do not appear to pulse
    visually'**;"[29] and

3. "the decoder of Gormish et al. provides substantially the
    same if not the same decoding of the compressed video
    bitstream producing frames of video which produces image
    that do not appear to pulse visually as claimed."[30]

Decompressor 122

If the second and third of the preceding quotations from the
Examiner's Action correctly characterizes application of the
Gormish, et al. patent to pending claims 1-7, this argument
refuting the rejection of those claims under 35 U.S.C. § 103(a)
need proceed little further.

The claimed invention is a method for "producing compressed
video data for a plurality of frames" which, upon being decoded by
any MPEG compatible decoder, "produces frames of video which

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[29] Page 6 of the Examiner's Action, 5th and 6th lines from the
      bottom.

[30] Page 6 of the Examiner's Action, last line and top 2 lines of
      page 7.

-19-

produce images that do not pulse visually."[31] Thus, if the Gormish, et al. patent "is being relied upon for the claimed feature of 'decoding of the compressed video bitstream produces frames of video which produces image that do not appear to pulse visually'," and for "the decoder of Gormish et al. [providing] substantially the same if not the same decoding of the compressed video bitstream producing frames of video which produces image that do not appear to pulse visually as claimed," that reference necessarily fails to disclose or to suggest the claimed invention, i.e. "producing a compressed video bitstream," and therefore claims 1-7 traverse rejection for obviousness under 35 U.S.C. § 103(a).

If the failure of the decoder (decompressor) disclosed in the Gormish, et al. patent and/or in the Bowater, et al. patent to disclose or to suggest the "producing a compressed video bitstream" invention encompassed by claims 1-7 might somehow be perceived as being insufficient to traverse rejection of those claims under 35 U.S.C. § 103(a), then the admitted omission of the Gormish, et al. and/or the Bowater, et al. patents to expressly disclose or to suggest "visual pulsing" of images irrefutably establishes the non-obviousness of claims 1-7 under controlling legal precedent.

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[31]   Applicant respectfully submits that it is significant to consideration of the pending claims that the various MPEG specifications, while expressly including in at lest some instances a model, i.e. definition, for a decoder, all omit any model, i.e. definition, for an encoder. That is, the various MPEG standards do not expressly disclose, nor do they even expressly suggest, any apparatus for or method for encoding, i.e. producing, a compressed video bitstream that conforms to the standard.

-20-

Because the Gormish, et al. and/or the Bowater, et al. patents fail to expressly disclose or to suggest "visual pulsing" of images, the rejection of claims 1-7 under 35 U.S.C. § 103(a) set forth in the Examiner's Action dated June 8, 2001, must necessarily rely upon **inherent operation** of the decoder (decompressor) depicted in FIG. 3 of the Gormish, et al. patent and/or the AMII card 125 depicted in FIG. 2 of the Bowater, et al. patent, that are described respectively in those references' texts associated with those FIGs. "The mere fact that a certain thing may result from a given set of circumstances in not sufficient" for inherency. Ex parte Skinner, 2 USPQ2d 1788, 1789 (Bd. Pat. App. & Int. 1986). If a claimed invention is not clearly anticipated by a reference, i.e. if the invention is not fully disclosed in a single prior art reference or embodied in a single practice or device, arguments of inherency are immaterial[32]. Jones et al. v. Hardy, 727 F.2d 1529-30, 220 USPQ 1021, 1025-26 (Fed. Cir. 1984). Inherency . . . may not be established by probabilities or possibilities. "'That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown.'" In re Newell, 891 F.2d 899, 901, 13 USPQ2d 1248, 1250 (Fed. Cir. 1989). Thus, as a matter of law, a combination of the decoders (decompressor) disclosed in the Gormish, et al. and/or the Bowater, et al. patents cannot render claims 1-7 obvious under 35 U.S.C. § 103(a) based upon their inherent operation, and the Applicant respectfully requests that

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[32]   For example in a rejection of claims under 35 U.S.C. § 103(a).

-21-

Docket no. 2134   October 4, 2001

the rejection of claims 1-7 be immediately withdrawn, and those claims pass immediately to issue.

Compressor 108

If for some reason the second and third quotations from the June 8, 2001, Examiner's Action set forth above do not accurately state the rationale upon which the Gormish, et al. patent is being applied in rejecting claims 1-7 for obviousness under 35 U.S.C. § 103(a), and that reference is, in fact, being utilized for the compressor illustrated there in FIGs. 1, 2 and 4, then and only then need the Applicant present further arguments establishing that claims 1-7 are allowable over the combined references of the Gormish, et al., Bowater, et al. and Davis, et al. patents.

In characterizing in greater detail than that set forth above the disclosure of the Gormish, et al. patent, the June 8, 2001, Examiner's Action states, in the text beginning with the last two lines on page 2 of the Examiner's Action and continuing through the remainder of the paragraph top 2 lines of page 3:

1. "Gormish et al. discloses a data compression for palettized video images as shown in Figures 1-3, and substantially the same method for producing a compressed video bitstream that includes compressed video data for a plurality of frames from data that specifies a single still image as claimed in claims 1 and 4, comprising";

2. "substantially the same fetching the data for the still image (i.e., 104 of Figure 1);"

3. "encoding data for the still image into data for an intra frame (i.e., [compressor] 108 of Figure 1 and see column 4, lines 49-65);"

4. "storing the encoded I frame data (i.e., [frame store] 204C of Figure 2);"

5. "assembling the compressed video bitstream by appropriately combining data for at least a single copy of the stored I frame (see Figure 2);"

6. "whereby decoding of the compressed video bitstream produces frames of video that do not appear to pulse visually (see [decompressor] 122 of Figure 1 and Figure 3); and"

7. wherein parameters employed in encoding the data for the still image produce an amount of data for the I frame that approaches, but remains less than, storage capacity of a buffer memory included in a decoder that stores the compressed video bitstream (see 204D of Figure 3).[33]"

Initially Applicant makes two observations regarding the preceding characterization of the Gormish, et al. patent.

1. Items 6 and 7 of the characterization reinforce the position in the already discredited second and third

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[33] Applicant respectfully submits that the text identified as item no. 7 appears nowhere in the text of any of the pending claims, and is therefore irrelevant to assessing whether the combined references render the claimed invention obvious under 35 U.S.C. § 103(a).

quotations set forth above from the June 8, 2001, Examiner's Action regarding the decoder (decompressor).

2. The entire one paragraph characterization quoted above includes only a single citation to a sixteen (16) line, contiguous segment of text in the Gormish, et al. patent, i.e. column 4, lines 49-65.

The Applicant respectfully submits that the Examiner's Action avoidance of more extensive citation of texts in the Gormish, et al. patent in support of the rejection of claims 1-7 is puzzling if the Gormish, et al. patent truly uses, as alleged, "substantially the same method for producing a compressed video bitstream that includes compressed video data for a plurality of frames from data that specifies a single still image." Why would the Examiner's action omit citations to the text regarding the illustrations of FIGs. 1-3 of the Gormish, et al. patent if those texts would actually support the rejection of the claims?

The extensive texts quoted above from the Gormish, et al. patent regarding the illustrations of FIGs. 1-4, 6 and 7 and the texts of the reference set forth in Exhibit A absolutely refute the preceding characterizations quoted above from the Examiner's Action. Rather, texts from the Gormish, et al. patent:

1. at best disclose fetching a sequence of image frames of a still image 104 in FIG. 1, and the text in col. 4 at lines 51-58 describing FIG. 1;

2. disclose the compressor 108 of Figure 1 moves data for the sequence of image frames of the still image present

-24-

in the original file 200 through a context modeller 202C, and an entropy coder 208C to form compressed file 220[34] representing a compressed version of original file 200[35];

3. discloses storing into the frame store 204C in FIG. 2 unencoded pixel values used subsequently for context comparisons, and not encoded I frame data as alleged in the Examiner's Action[36]; and

4. because an I frame is not stored in the frame store 204C, cannot disclose assembling the compressed video bitstream by appropriately combining data for at least a single copy of the falsely allegedly stored I frame.

For the preceding reasons, if an attempt were made to the utilized the compressor illustrated in FIGs. 1, 2 and 4 of the Gormish, et al. patent together with the two other references in rejecting claims 1-7 for obviousness under 35 U.S.C. § 103(a), such an attempt is doomed to failure.

For these reasons, the Applicant respectfully submits that the paragraph quoted above from pages 2 and 3 of the Examiner's Action truly constitutes nothing more than an artful hindsight reconstruction of the invention which, unfettered by expressly contradictory texts that appear in the Gormish, et al. patent, reads most of the text of pending claim 1 onto the illustrations of FIGs. 1-3 in that

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[34]   The Gormish, et al. patent col. 5, line 66 - col 6, line 1.

[35]   The Gormish, et al. patent col. 5, lines 60-61.

[36]   The Gormish, et al. patent col. 6, lines 17-18.

-25-

reference. The Applicant furthermore respectfully submits that this artful hindsight reconstruction is only possible if one completely ignores texts in the Gormish, et al. patent describing the illustrations of FIGs. 1-3. Moreover, even use of the artful hindsight reconstruction fails to render claims 1-7 obvious under 35 U.S.C. § 103(a) because none of the three references cited in the Examiner's Action discloses or suggests:

1. the reconstruction; or

2. that the reconstruction combined with the other two references would lead one of ordinary skill in the art to the solution of the problem encompassed by pending claims 1-7.

**Rebuttal of Examiner's
Action Arguments**

The Examiner's Action dated June 8, 2001, criticizes arguments which the Applicant presented in a April 10, 2001, response to a prior Examiner's Action. Relying upon case authority, the June 8, 2001, Examiner's Action at the bottom of page 5 argues that:

1. "[o]ne of ordinary skill in the art is presumed to possess a certain amount of background knowledge independent of the references;" and

2. "[t]he conclusion of obviousness may be made from common knowledge and common sense of a person of ordinary skill in the art without any specific hint or suggestion in a particular reference."

Docket no. 2134

October 4, 2001

In the first full paragraph on page 6 the June 8, 2001, Examiner's Action, again with a citation to case authority, criticizes the Applicant's response for attempting to "show nonobviousness by attacking references individually where, as here the rejections are based on combination of references." Summaries of the case authority cited in the June 8, 2001, Examiner's Action in support of the preceding arguments are attached hereto as Appendix A.

The case summaries included in Appendix A establish that one of ordinary skill in the art is presumed to possess skill rather than stupidity, In Re Sovish, 769 F.2d, 738, ___, 226 USPQ 771, 774. (Fed.Cir. 1985);. A subsequent decision that cites In Re Sovish states:

> [t]aking into account the appropriate level of skill in the art, we presume that a person having ordinary skill would exercise **common sense and sound judgment**. Ex parte Beck, ____ F.3d _____, _____, 9 USPQ2d 1995, 2002. (Emphasis supplied.)

While the case authority of In re Bozek, 416 F.2d 1385, _____, 163 USPQ 545, 549 (C.C.P.A. 1969), supports the proposition that:

> [t]he conclusion of obviousness may be made from common knowledge and common sense of a person of ordinary skill in the art without any specific hint or suggestion in a particular reference,

subsequent Federal Circuit decisions have limited the application of common knowledge and common sense in rejecting claims for obviousness under 35 U.S.C. § 103(a). For example, Smiths Industries Medical Systems v. Vital Signs, 183 F.3d 1547, ___ USPQ2d _____ (Fed.Cir. 1999), which cites In re Bozek, holds:

> [t]hat knowledge may have been within the province of the ordinary artisan does not in and of itself make it so,

Docket no. 2134

October 4, 2001

absent clear and convincing evidence of such knowledge. (Emphasis in the original.)

Consequently, Smith Industries holds that in rejecting claims for obviousness under 35 U.S.C. § 103(a) one cannot speculate about the common knowledge and common sense of the ordinary artisan. Smith Industries further holds that, as in the present application, if references lack any specific hint or suggestion that they be combined, the references may be combined to obtain the claimed invention, only after establishing the common knowledge and common sense of the ordinary artisan. Thus, a naked assertion about the common knowledge and common sense of the ordinary artisan, as set forth in the Examiner's Action dated June 8, 2001, is insufficient, by itself, under Smith Industries, supra, to permit combining references.

Lastly, the June 8, 2001, Examiner's Action relying upon legal authority correctly observes that it is improper to "show nonobviousness by attacking references individually where, as here, the rejection is based on combination of references." In re Keller, 64 F.2d 413, ____, 208 USPQ 871, 882 (CCPA 1981) Analogously, as pointed out above, in deciding obviousness one must also consider the claim as a whole, Litton Industrial, supra, and the prior art as a whole must be considered, and those portions of the prior art arguing against or teaching away from the claimed invention must be considered, Bausch & Lomb, Inc., supra. However, in considering both the claims as a whole and the prior art as a whole, the Federal Circuit requires both:

-28-

1.   analyzing the prior art to identify there the source of
      various claim limitations in that art, and

2.   a motivation, teaching or suggestion to combine those
      claim limitations. Smith Industries, supra.

Exhibit B to this response is a chart of the text of twice
amended independent claim 1 juxtaposed with the various claim
limitations disclosed in the Gormish, et al., the Bowater, et al.
and the Davis, et al. patents. As such, Exhibit B compares the
text of claim 1 as a whole with the various sources of claim
limitations, or absence thereof, in the three references as a
whole.

It is readily apparent from Exhibit B that none of the
references, either alone or in combination, discloses:

1.   producing a compressed video bitstream that includes
      compressed video data for a plurality of frames from data
      that specifies a single still image, i.e. the invention;

2.   fetching the data for the single still image;

3.   encoding the data for the still image into data for an
      intra ("I") frame; or

4.   storing the encoded I frame data.

Citing In re Keller, the Federal Circuit recently held In re
Kotzab, 217 F.3d 1365, 1369, 55 USPQ2d 1313, 1316 (Fed.Cir. 2000)
that:

> [t]he test for an implicit showing is what the combined
> teachings, knowledge of one of ordinary skill in the art,
> and the nature of the problem to be solved as a whole
> would have suggested to those of ordinary skill in the
> art. See In re Keller, 642 F.2d 413, 425, 208 USPQ 871,

881 (CCPA 1981) (and cases cited therein). **Whether the Board relies on an express or an implicit showing, it must provide particular findings related thereto.** See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. **Broad conclusory statements standing alone are not "evidence."** Id. Id. 1369, 1316. (Emphasis supplied.)

Where, as in the present rejection of claims 1-7 for obviousness under 35 U.S.C. § 103(a) based upon a combination of the Gormish, et al, the Bowater, et al. and the Davis, et al. patents, the text of the Gormish, et al. patent expressly contradicts the rational for rejecting those claims presented in the June 8, 2001, Examiner's Action[37], the rejection of the pending claims necessarily lacks even credible broad conclusory statements that the Federal Circuit prohibited In re Kotzab, supra .

Conclusion

Forgetting entirely the disclosure of the present application, what does a combination of the Gormish, et al., Bowater, et al. and Davis, et al. patents, taken as a whole, suggest to one of ordinary skill in the art about producing, that is not decoding, a compressed video bitstream that includes compressed video data for a plurality of frames?

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[37]   For example, the allegation on page 3 of the Examiner's Action that the frame store 204C in the Gormish, et al. patent stores "the encoded I frame data (i.e., [frame store] 204C of Figure 2)" when the text of the reference, in fact, expressly discloses in col. 6 at lines 17-19 that the frame store 204C receives only unencoded pixel values. The Gormish, et al. patent in col.12 at lines 14-20 similarly expressly discloses that the frame store 204D of the decompressor 122 receives only unencoded pixel values.

-30-

Clearly, the Gormish, et al. patent discloses that a compressor 108 (encoder) can encode a sequence of still image frames into a sequence of compressed video frames. If compression of the sequence of still image frames were performed in accordance with the MPEG standard disclosed in the Davis, et al. patent, and if the encoded sequence of compressed video frames were decoded using an MPEG decompressor 122 (decoder) similar to that disclosed in the Gormish, et al. patent, then images produced from the decoded compressed video frames will surely appear to pulse visually, usually at a frequency identical to the frequency at which GOPs occur in the MPEG compressed video bitstream, e.g. twice per second.

If a network were interposed between the compressor 108 (encoder) disclosed in the Gormish, et al. patent and the decompressor 122 (decoder), then images produced from the decoded compressed video frames will undoubtedly continue appearing to pulse visually. If the network interposed between the compressor 108 and the decompressor 122 were an asynchronous or non-ideal network, and if the asynchronous network were at times unable to supply the decompressor 122 with sufficient compressed video data, then in according with the disclosure of the Bowater, et al. patent:

> after transmission across the asynchronous or non-ideal
> network, . . . frames [of compressed video data] arrive
> at [the decompressor 108 at] irregular intervals. Some
> frames arrive early, some are delayed, and bunching can
> occur.
>   *   *   *

October 4, 2001

In such [a system] it [would be] necessary to match the irregular arrival of frames over the network with the constant supply required to the output screen. (Col. 1, lines 40-49)

Having access to the Bowater et al. patent, one of ordinary skill in the art would understand that, in accordance with the invention disclosed in that reference, the requirement that an MPEG implementation of the Gormish, et al. decompressor 108 receive frames of compressed video data at a constant rate despite delays introduced by the asynchronous or non-ideal network could be satisfied if:

1. MPEG null frames were added to the compressed video data during intervals in which the network supplied an insufficient amount of video data; and

2. thereafter, the decompressor 122 (decoder) deletes frames of compressed video data which arrived late.

Thus, taken as a whole the Gormish, et al., Bowater, et al. and Davis, et al. patents do not disclose nor do they suggest to one of ordinary skill in the art any solution to the problem of still frame video images that appears to pulse visually. Furthermore, as Applicant has observed above, at a more fundamental level the combined references fail to disclose or to suggest express limitations that appear in the text of independent claim 1. Therefore, the combined Gormish, et al., Bowater, et al. and Davis, et al. patents both fail to disclose or to suggest any solution to the problem addressed by the present invention, they also fail to
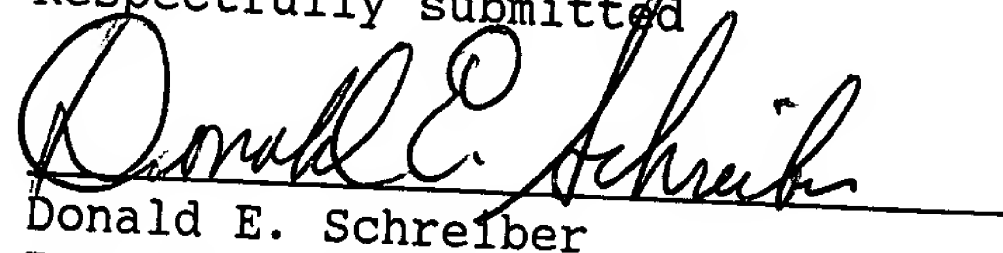
-32-

disclose or to suggest express limitations appearing in the texts of this application's pending claims.

Because, for the reasons set forth above the combined Gormish, et al., Bowater, et al. and Davis, et al. patents both fail to disclose or to suggest any solution to the problem addressed by the present invention, and also fail to disclose or to suggest express limitations appearing in the texts of pending claims 1-7, under controlling legal authority pending claims 1-7:

1. traverse rejection for obviousness under 35 U.S.C. § 103(a) based upon the cited references; and

2. are therefor allowable over those combined references.

Accordingly, the Applicant respectfully requests that the rejection of claims 1-7 for obviousness under 35 U.S.C. § 103(a) based upon the combined Gormish, et al., Bowater, et al. and Davis, et al. patents be withdrawn, and the application pass immediately to issue.
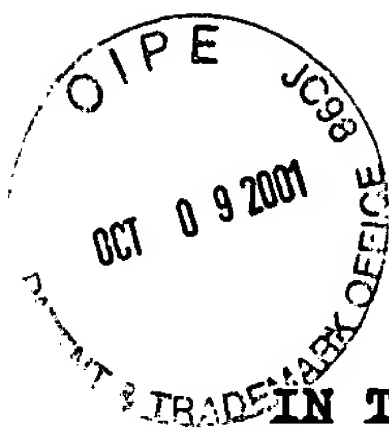
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CLAIMS AMENDED BY REWRITING
MARKED-UP TO SHOW ALL THE CHANGES
RELATIVE TO THE PREVIOUS VERSION OF THE CLAIMS

1.   (Twice Amended)   A method for producing a compressed video bitstream that includes compressed video data for a plurality of frames from data that specifies a single still image, the method comprising the steps of:

5   fetching the data for the still image;

         encoding the data for the single still image into data for an intra ("I") frame;

         storing the encoded I frame data; and

         assembling the compressed video bitstream by appropriately

10 combining data for:

             at least a single copy of the stored I frame;

             at least one null frame; and

-1-

various headers required for decodability of the com-
pressed video bitstream;

15 whereby decoding of the compressed video bitstream produces frames
of video which produce images that do not appear to pulse visually.